This listing of claims will replace all prior versions, listings, of claims in the application:

Listing of Claims:

1. (currently amended) A gas-liquid-solid circulating fluidized bed system, comprising:

a first fluidized bed, means to feed solid particles having effective immobilized bacteria coated thereon into said first fluidized bed adjacent to a first end of said first fluidized bed and means to feed a first fluid into said first fluidized bed adjacent to a second end of said first fluidized bed, said second end being remote from said first end so that said solid particles and said first fluid flow in counter current;

a second fluidized bed, said second fluidized bed being a riser fluidized bed wherein a means for introducing solid particles and a means for introducing a second fluid into said second fluidized bed are both adjacent to one end of said second fluidized bed so that said solid particles and said second fluid introduced into said second bed flow concurrently through said second bed from said one end toward another end of said second fluidized bed remote from said one end, gas injection means to inject gas into one or both of the first and second liquid fluidized beds;

first means connecting said first fluidized bed to said second fluidized bed adjacent to said second end of said first fluidized bed and said one end of said second fluidized bed, said first connecting means includes means to feed said solid particles into said second fluidized bed; and

second means connecting said first and said second fluidized beds adjacent said first end of said first bed and said other end of said second fluidized bed, said second means connecting includes said means to feed the solid particles into said first fluidized bed.

2. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 1 wherein said gas injection means is connected to the first fluidized bed, and wherein said first fluidized bed includes an aerobic zone for biodegrading wastewater predominately by the immobilized bacteria in the presence of oxygen.

3. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 2 wherein said second fluidized bed includes an anoxic zone for denitrification, and an anaerobic zone for phosphorus release.

4. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 1 wherein said gas injection means is connected to the second fluidized bed, and wherein said second fluidized bed includes an aerobic zone for biodegrading wastewater predominantly by the immobilized bacteria in the presence of oxygen.

5. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 4 wherein said first fluidized bed includes an anoxic zone for denitrification and an anaerobic zone for phosphorus release.

6. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 1 wherein said first means connecting is adapted to form a first hydraulic seal between said first and second fluidized beds, and wherein said second means connecting is adapted to form a second hydraulic seal between said first and second fluidized beds.

7. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 6 wherein said first hydraulic seal is a first moving packed bed, and wherein said second hydraulic seal is a second moving packed bed.

8. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 1 wherein said first fluidized bed is a counter-current fluidized bed ~~operated in a conventional fluidized bed regime~~.

9. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 1 wherein said second fluidized bed is a riser bed operated in a circulating fluidization regime.

10. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 2 wherein said gas injected into the first fluidized bed contains oxygen.

11. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 4 wherein said gas injected into the second fluidized bed contains oxygen.

12. (currently amended) The gas-liquid-solid circulating fluidized bed system according to claim 1 wherein said first and second liquid fluidized beds are substantially vertical columns.

13. (currently amended) The gas-liquid-solid circulating fluidized bed system as defined in claim 12 wherein said first end of said first fluidized bed is the top end, said second end of said first fluidized bed is the bottom end, said one end of the second fluidized bed is the bottom end and said other end of said second fluidized bed is the top end.

14. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 13 wherein said first fluid essentially flows upwards and said solids essentially flow downwards to form a counter current flow in said first fluidized bed, and wherein said second fluid and solid particles both essentially flow upwards concurrently in the second fluidized bed.

15. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 14 wherein said second fluidized bed further includes a fluid-solid separator means located at the top end thereof for separating solid particles from fluid and exhausting such separated fluid to provide separated solid particles.

16. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 15 wherein the separator means includes fluid circulating means for circulating at least some of the exhausted fluid separated from the solid particles back to the bottom end of the second liquid fluidized bed.

17. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 15 wherein the separator means includes fluid circulating means for circulating at least some of the exhausted fluid separated from the solids back to a middle of the second liquid fluidized bed.

18. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 15 wherein said first liquid fluidized bed further includes a clarifier means located at the first end thereof for separating solid particles from fluid and exhausting such separated fluid to provide separated solid particles which settle back into the first fluidized bed in order to minimize the loss of particles through the effluent.

19. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 18 wherein the clarifier means includes fluid circulating means for circulating at least some the fluid separated from the solid particles back to the second end of the first liquid fluidized bed and removing at least a portion of the remaining fluid separated from the solid particles from the system as treated effluent.

20. (currently amended) [[A]] The gas-liquid-solid circulating fluidized bed system as defined in claim 18 wherein the clarifier means includes sludge withdrawal means for exhausting sloughed sludge formed during the process.

21. -33. (cancelled)